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IEA Energy Efficiency Policy Activities: Highlights

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International Energy Agency
IEEJ, 7 October 2014

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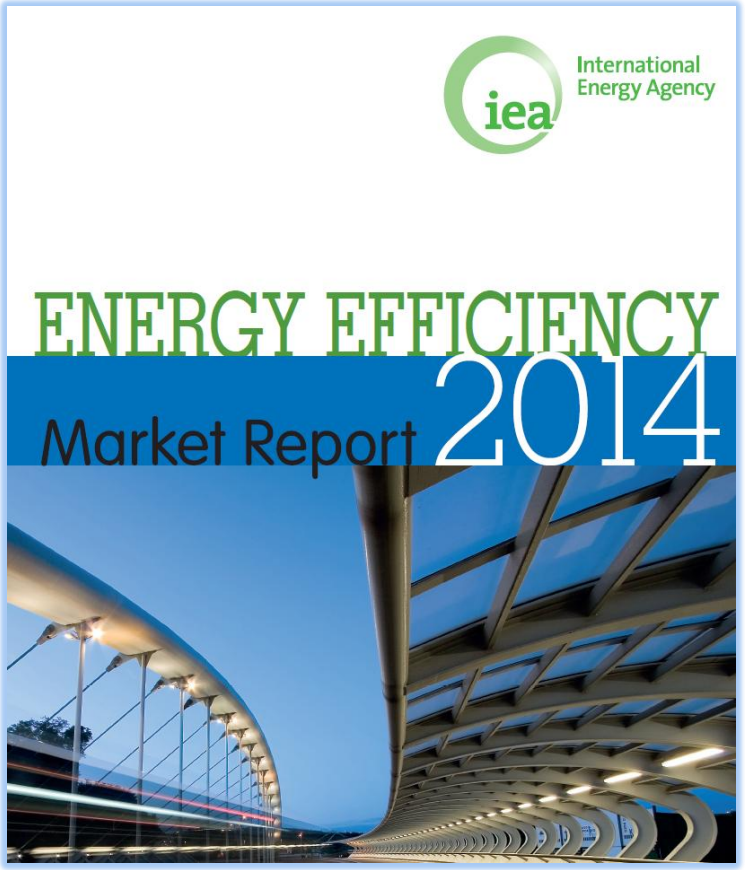
Energy Efficiency Market Report 2014

- Energy efficiency market estimated value to be between USD 310 billion and 360 billion
- Energy efficiency is *still* the **first fuel** in IEA-11 countries: avoided energy use was larger than the supply of oil, electricity or natural gas in 2011
- Energy efficiency market: diffuse, extensive and projected to grow



What's new this year

1. 5 new methods to evaluate size of the market and discussion on market definitions
2. Expanded analysis from 11 to 18 countries
3. New decomposition methodology
4. Systematic tracking of energy efficiency indicators by sector and end-use
5. Focus on Energy efficiency in Finance and Transport

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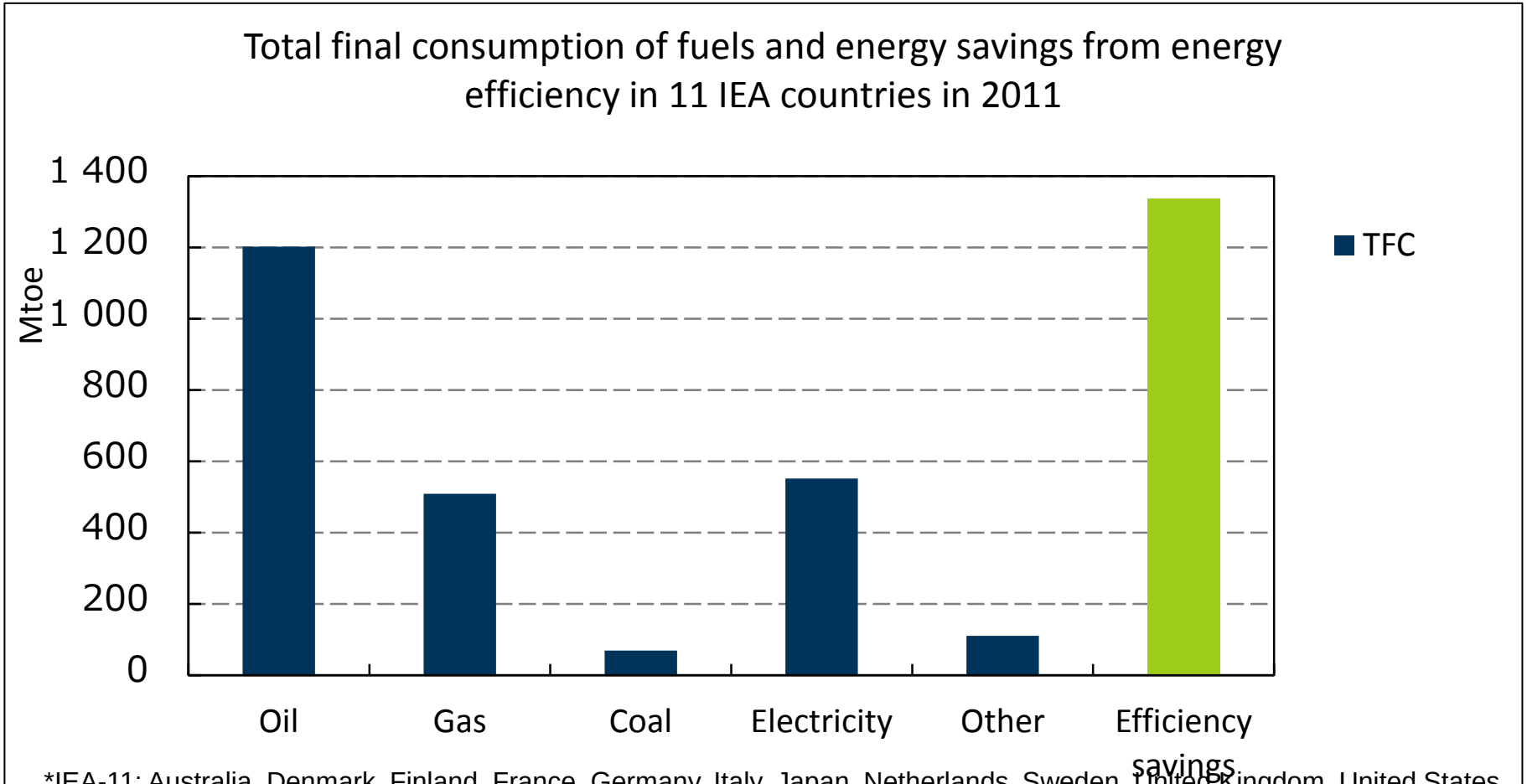
Energy efficiency: still the 'first fuel'

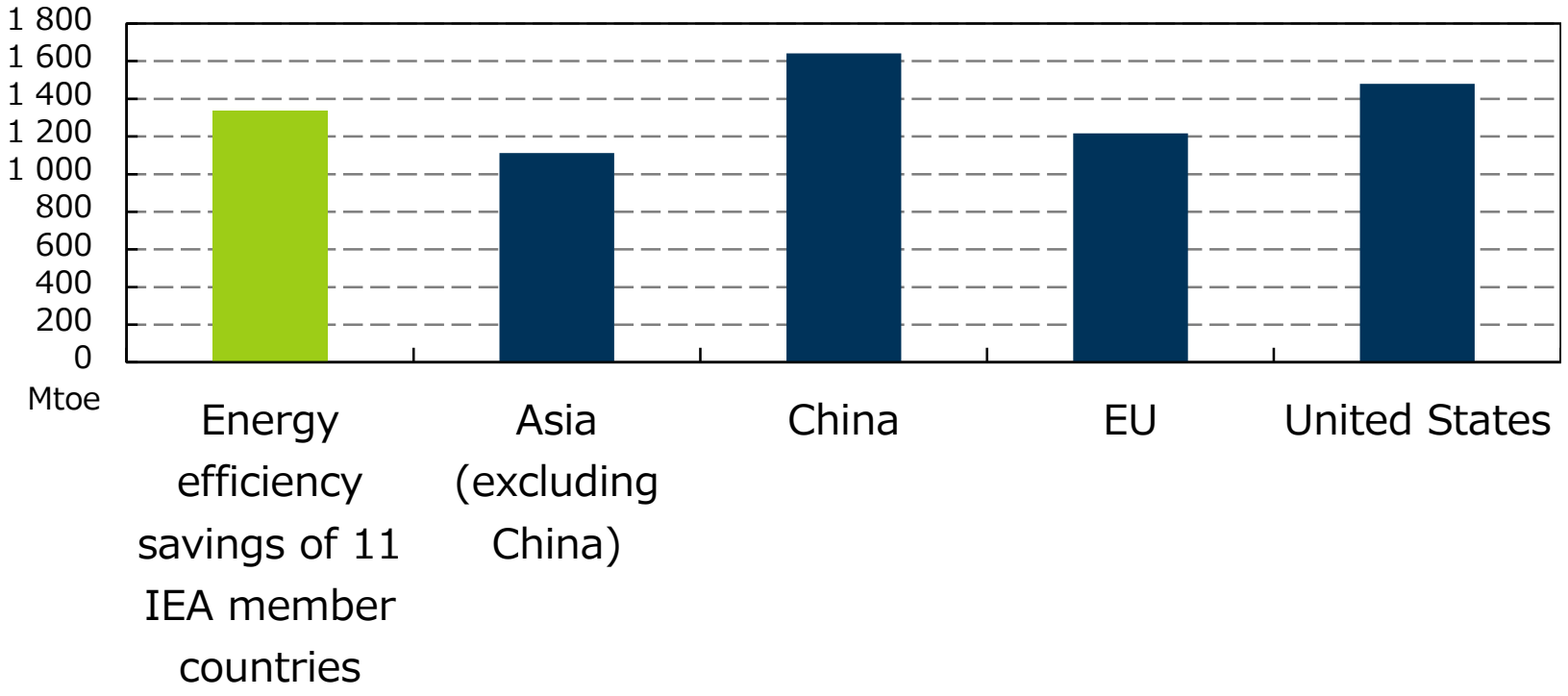
Supplied (1336 Mtoe) more in 2011 to meet energy service demand than oil (1200 Mtoe), electricity (552 Mtoe), natural gas (509 Mtoe) in IEA-11*



*IEA-11: Australia, Denmark, Finland, France, Germany, Italy, Japan, Netherlands, Sweden, United Kingdom, United States

Indicators: Energy efficiency an invisible powerhouse

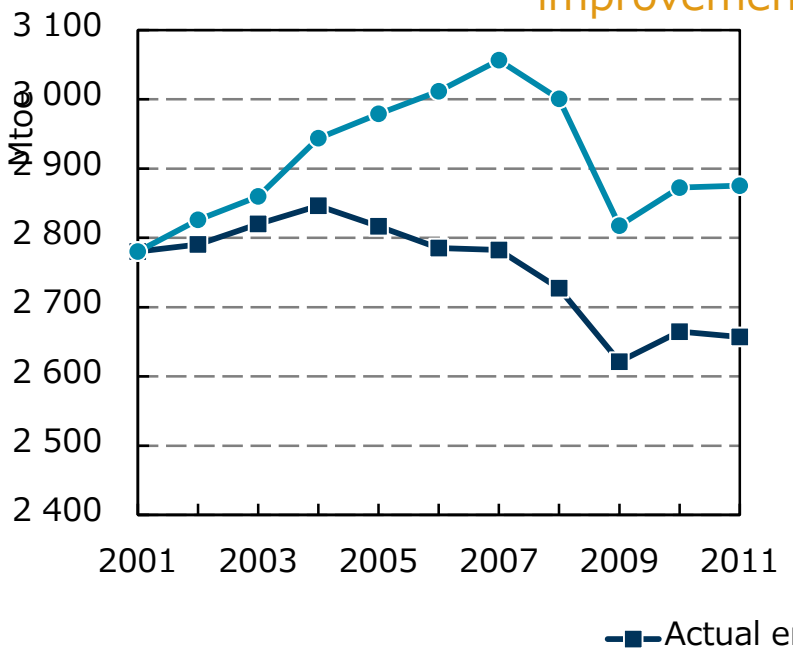
- **Energy efficiency savings rival the TFC of major energy-consuming countries and regions**
- **Energy efficiency improvements over the last four decades saved more energy in 2011 than EU TFC**

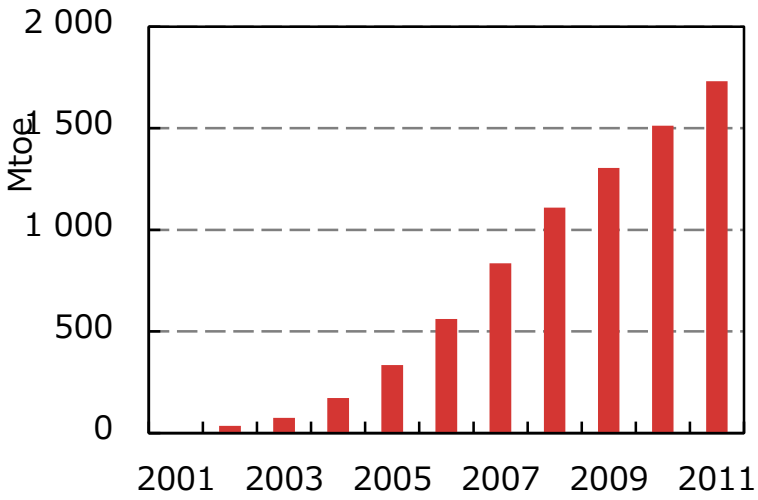


Indicators: Energy efficiency an invisible powerhouse

- **Energy efficiency improvements compared to 2001 produced over 1 700 Mtoe in cumulative energy savings by 2011 in 18 IEA countries**

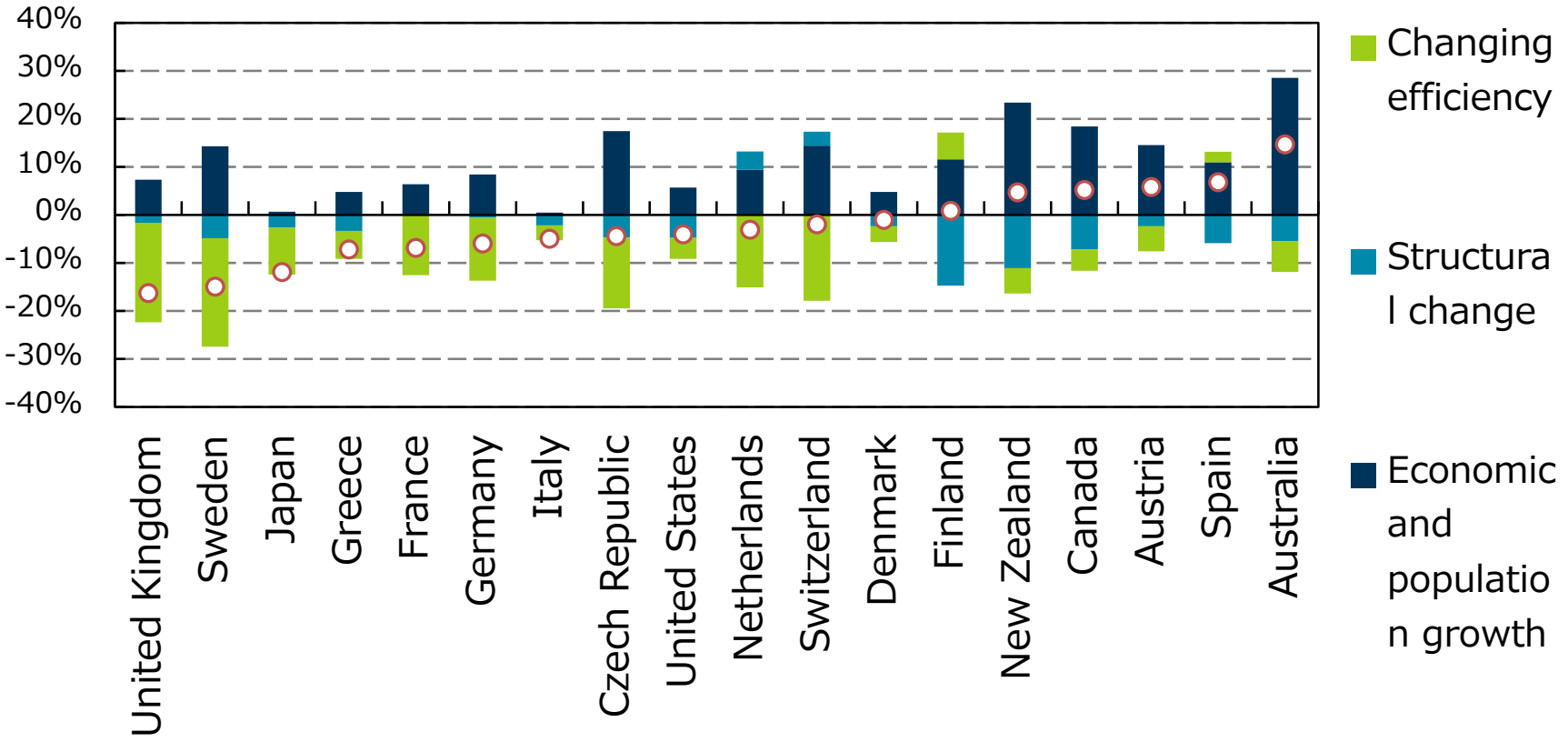
TFC and hypothetical energy use without energy efficiency improvements since 2001





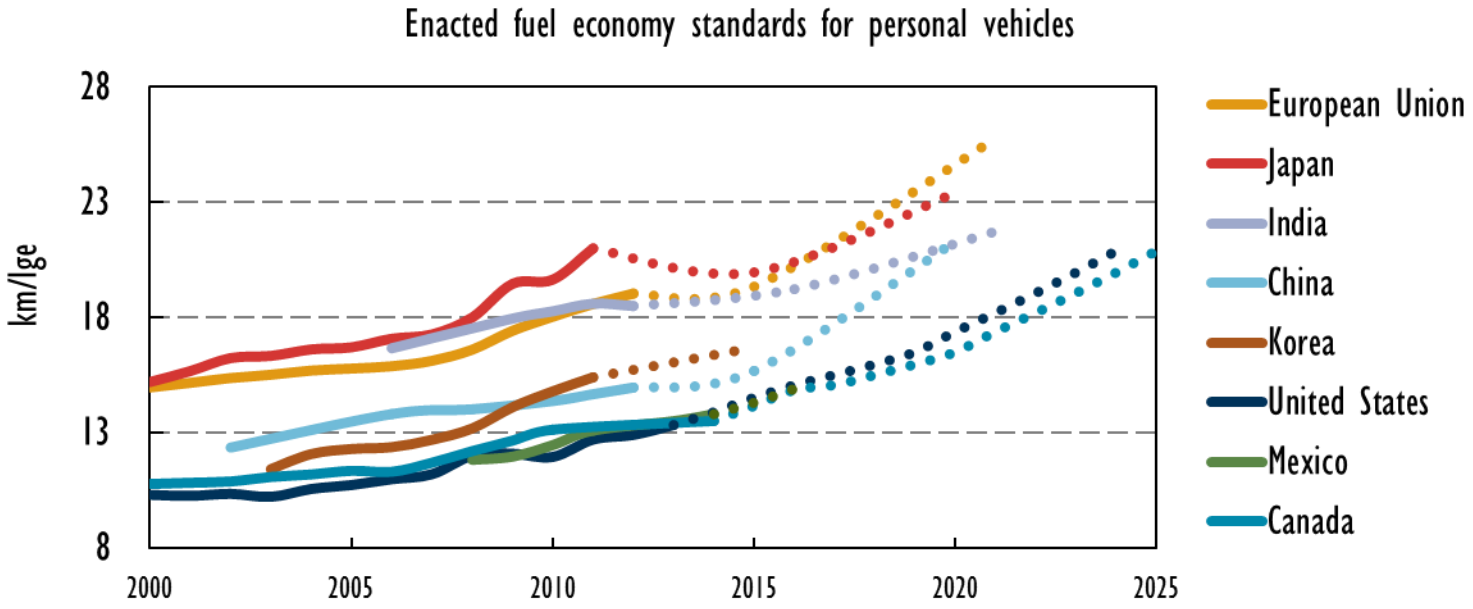
Indicators: 2001-11 TFC down in 12 of 18 countries largely from efficiency

- **Efficiency is helping efforts to decouple economic growth from energy consumption**



Transport efficiency market driven by fuel economy standards

- **Fuel economy standards affect 70% of global new vehicle fleet (50 million vehicles in 2011)**
- **Standards could achieve between USD 40 and 190 billion in fuel savings by 2020 pending ambition and effectiveness**



Source: Global fuel economy initiative

Energy efficiency finance

- Energy efficiency finance is expanding and innovating
- Third-party financing estimated in range of USD 120 billion (drawing on WEIO estimate of financing share)
- Bilateral and multilateral development funding for energy efficiency was over USD 22 billion in 2012
- Energy efficiency finance is moving from niche to established financial market segment
- Energy efficiency market will grow with greater transparency and standards for financial products

Country case studies

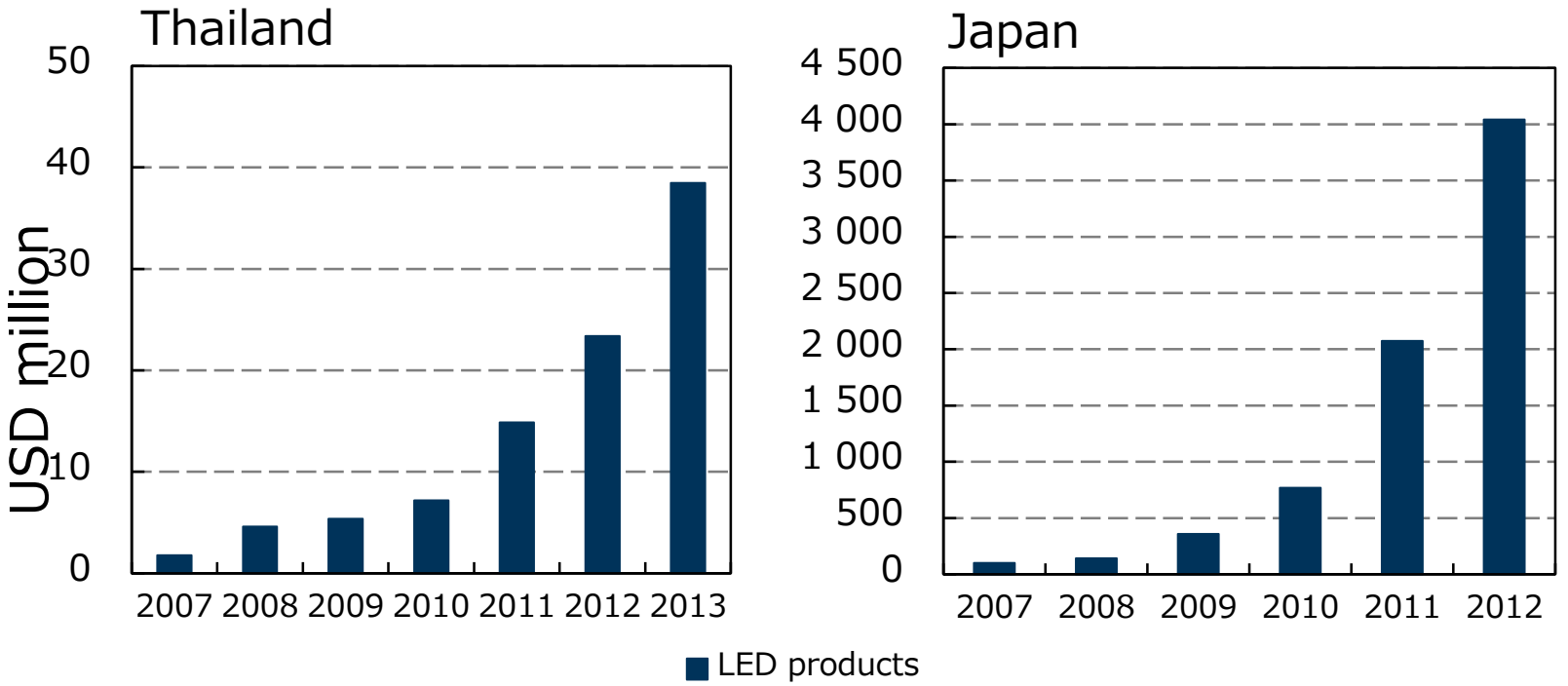
- **11 countries:**

Canada	*Italy*
China	*Japan*
EU	*Korea*
India	*The Netherlands*
Indonesia	*Thailand*
Ireland	

- **Highlighted sub-markets and innovative policies harnessing market factors**

Asia: Growing EE lighting markets

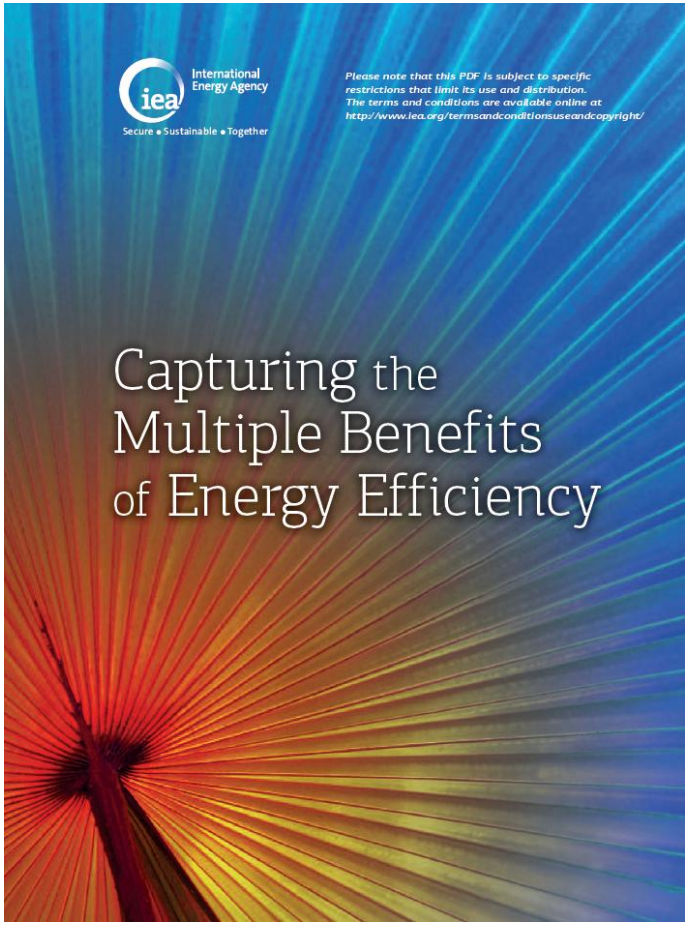
- **LED market taking off in Asia:**
  - **Thai LED sales have growth exponentially from USD 2 million in 2007 to 38 million in 2013**
  - **In Japan LED sales grew from USD 100 million in 2007 to 4 billion in 2013**



Conclusions

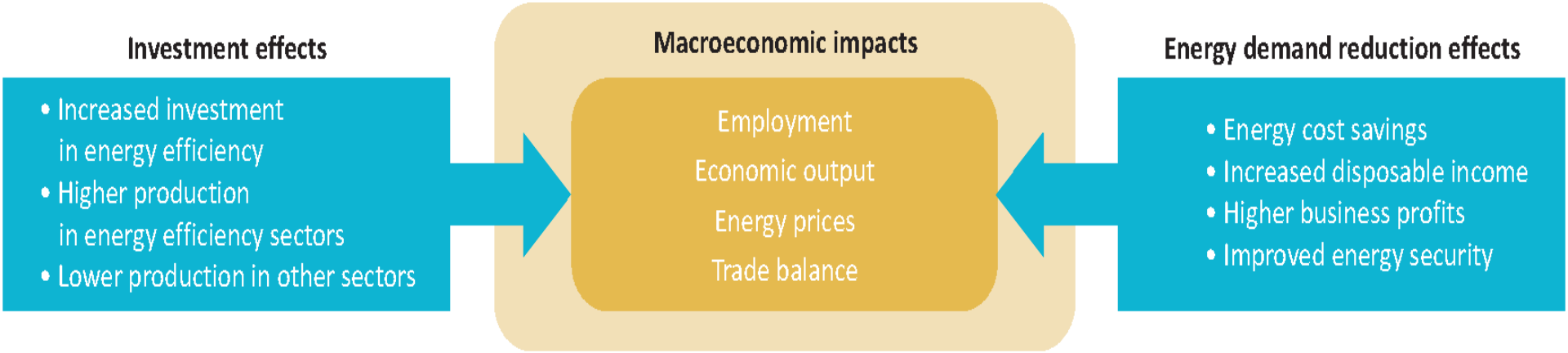
- Energy efficiency market a significant component of the global energy system
- Market is growing with drivers strengthening
- Pressing issues such as climate change to drive further attention
- Policies are critical to achieve the untapped energy efficiency market potential

Capturing the Multiple Benefits of Energy Efficiency – Launched 9 September in Berlin



- Introduction – context
- Macroeconomic
- Public budgets
- Health
- Industrial productivity
- Energy providers
- Conclusions
- Methodologies

Overarching macroeconomic benefits



By driving increased investment and energy demand reductions, energy efficiency policy can boost GDP growth by between 0.25% and 1.1%.

Public budgets

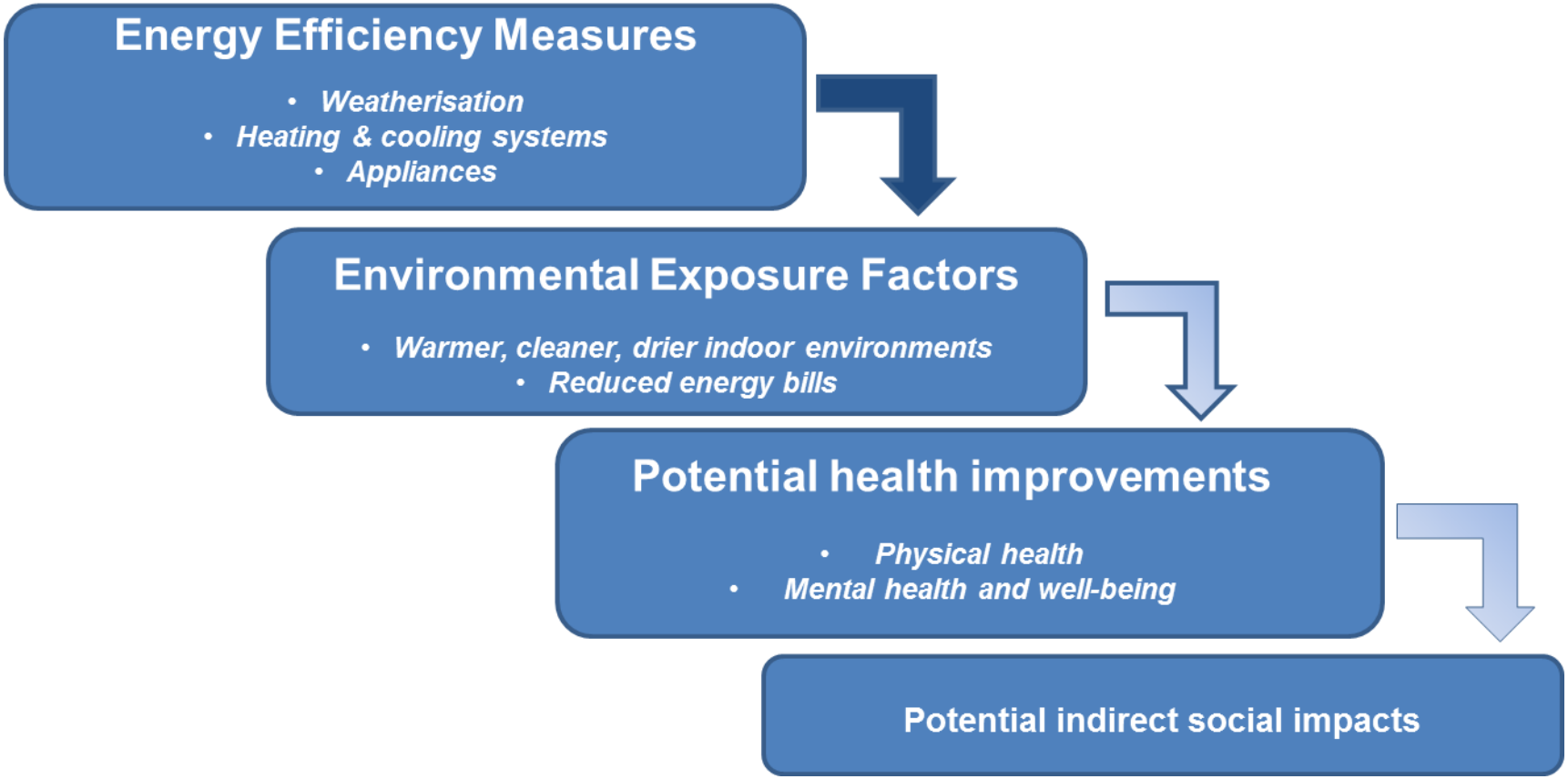
Investment effects

Sales tax revenue from sales of energy efficiency products and services	↑
Sales tax revenue from other goods when crowded out by Energy Efficiency	↓
Initial costs of public investment in energy efficiency products and services	↑
Social welfare and unemployment benefits expenditures	↓
Real estate transaction revenues if properties become more valuable	↓

Energy savings effects

Public expenditure on public sector energy	↓
Energy subsidies to final consumers	↓
Energy excise duty, emissions trading, and carbon tax revenues	↓
Sales and income tax revenues from sales of goods and services	↑
Public health or social welfare expenditure	↓
Public investment in energy supply infrastructure and subsidies	↓

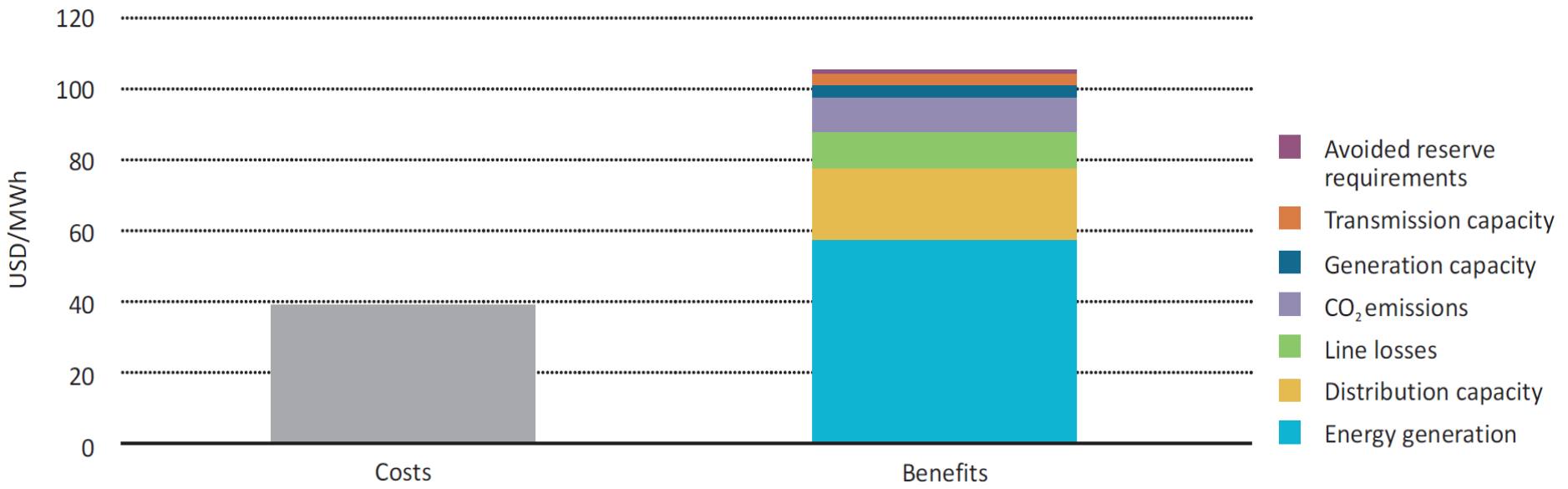
Health and well-being



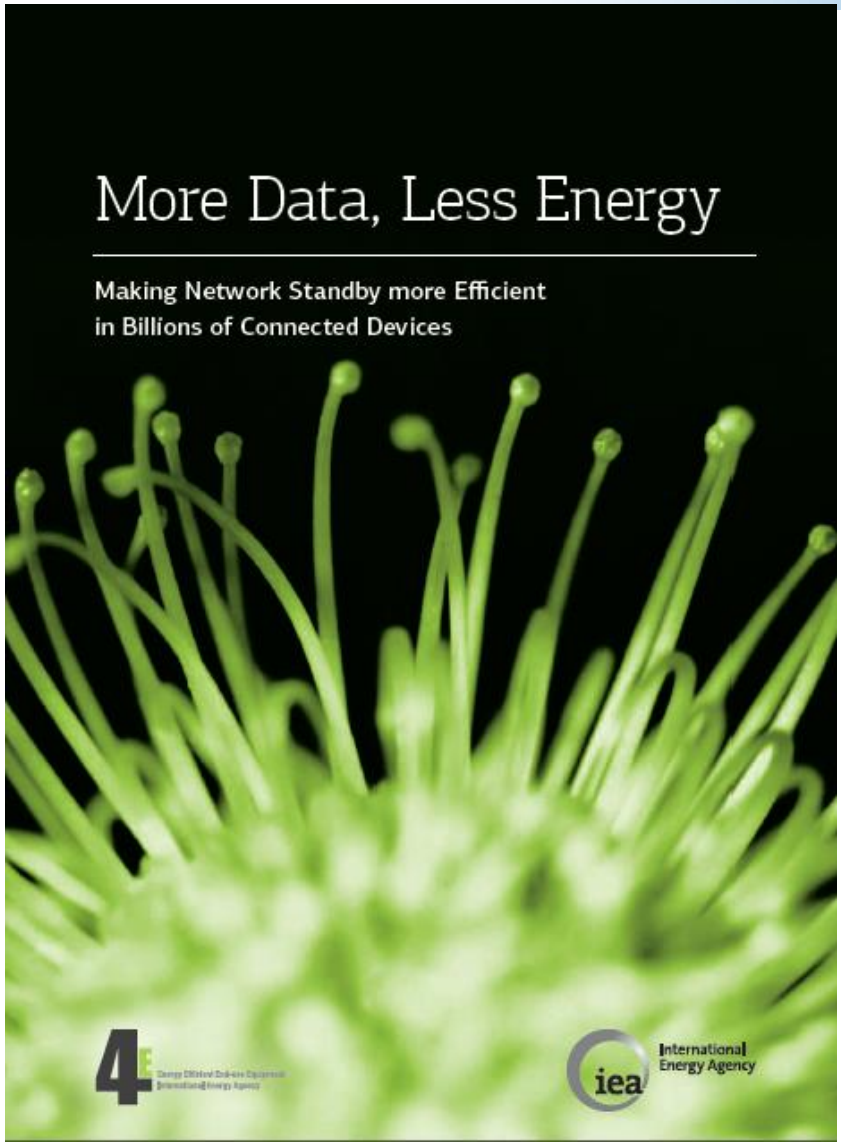
Industrial sector: from savings to value creation

Competitiveness	**ability to enter new markets, reduced production costs etc.**
Production	**capacity utilisation, improved product quality etc.**
Operations and maintenance	**improved operation, reduced need for maintenance etc.**
Working environment	**site environmental quality, worker health and safety etc.**
Environment	**air pollution, solid waste, wastewater, reduced input materials etc.**

Expanding energy provider business models



- ***Benefits for utilities: in resource constrained operating context***
- ***Benefits for consumers/indirect benefits for utilities: increased affordability reduces customer default and associated costs***

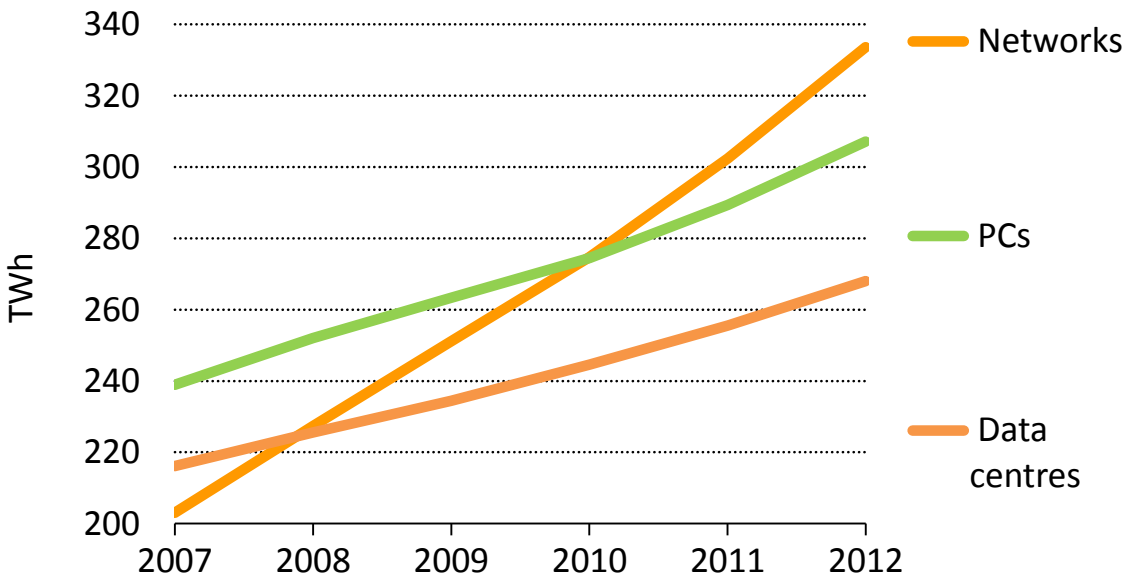


Free download and access to graphs and further information: www.iea.org/etp/networkstandby

More information about 4E activities: www.iea-4e.org

The global energy footprint of ICT is large and growing

Electricity demand of networks, PCs and data centres

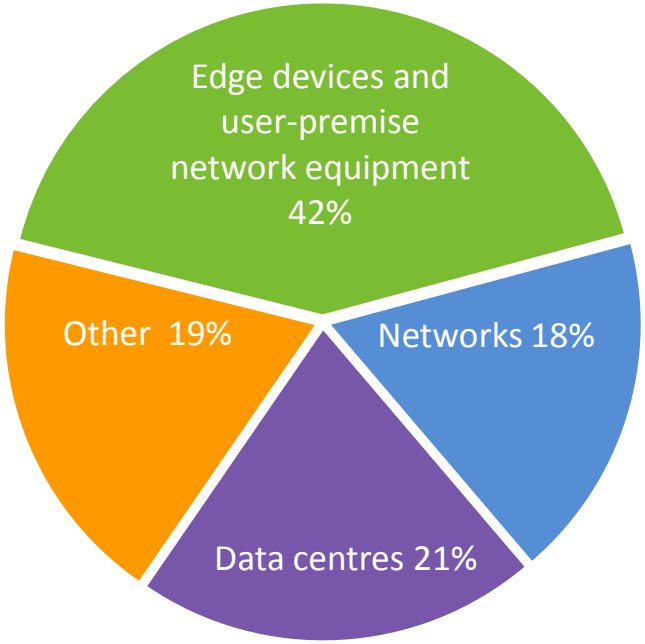


Total ICT energy demand reached 1560 TWh in 2013

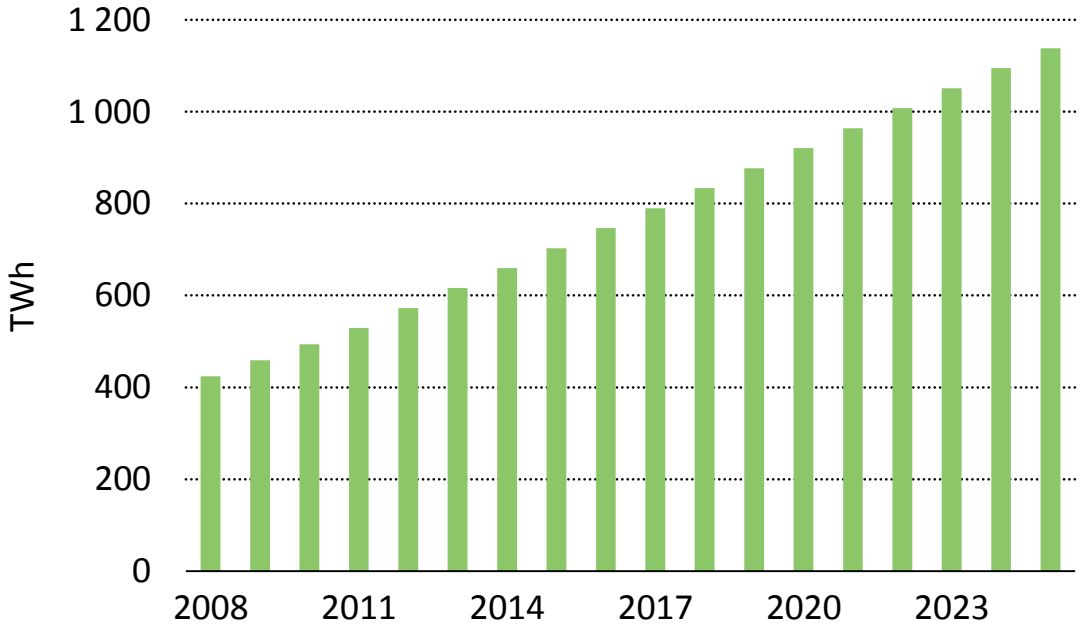
Electricity demand of ICT is growing at a much faster rate than overall electricity demand

Connected devices are driving ICT energy demand

ICT electricity demand by segment

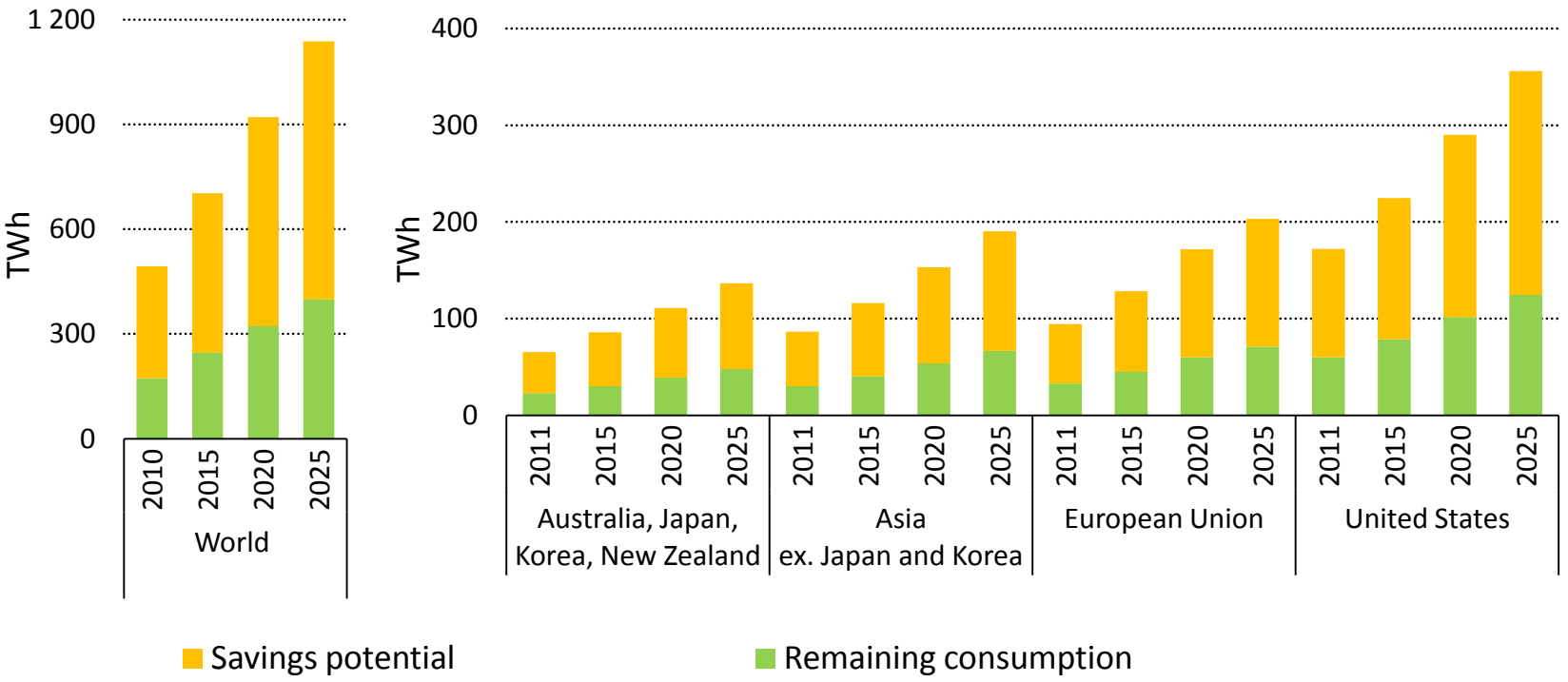


Network-enabled device electricity demand



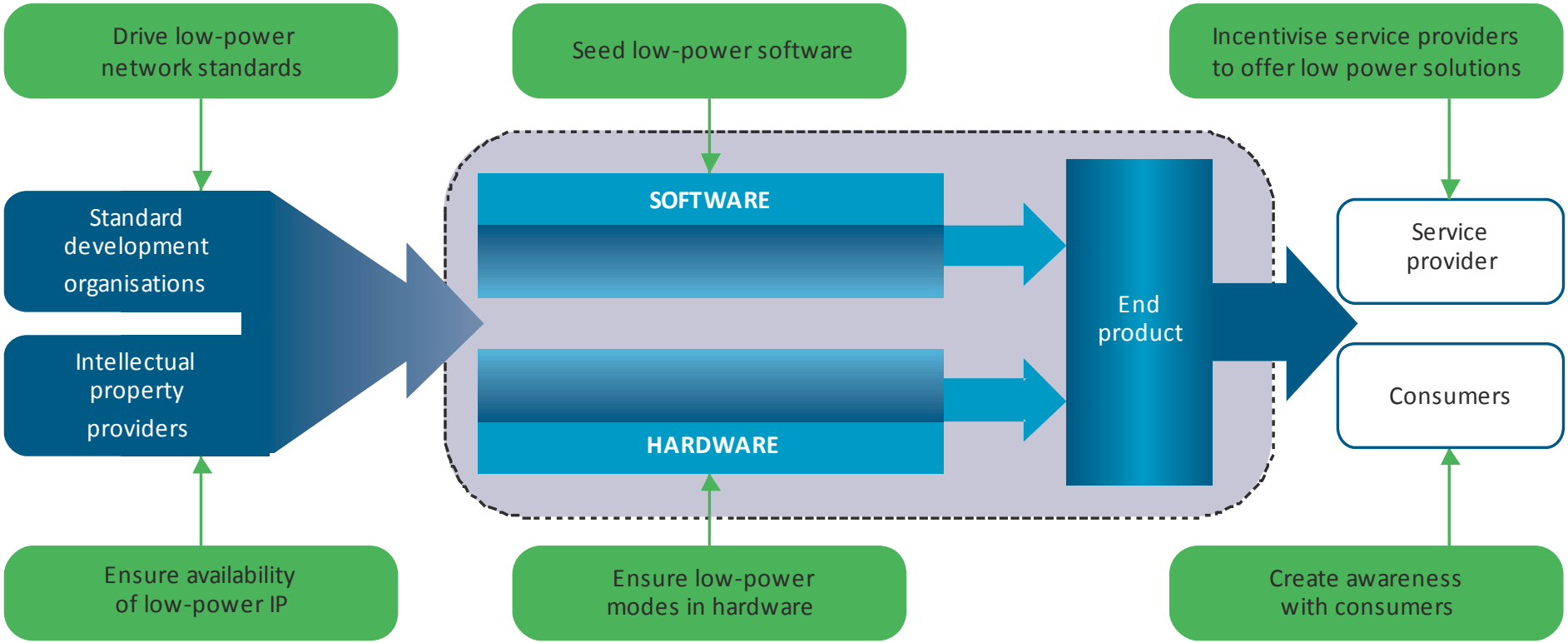
Network-enabled device electricity demand is growing at a rate of 6% per year

How much could we save?



What can we do?

How different actors across the value chain can promote energy efficiency



Everyone has a role to play in enabling the development and uptake of energy efficient solutions

IEA digital energy efficiency initiative

- **Develop and implement policies to promote energy efficiency**
- **Strengthen foundations for policy making**
  - Standards
- **Intensify international cooperation**
  - Policy cooperation platform
  - Policy – Industry cooperation platform

Sample of other IEA energy efficiency activities

Tailoring the 25 Energy Efficiency Policy Recommendations to regional needs

- Adjust the 25 EEPR to suit emerging economies' political, social and economic conditions
- Engage with energy efficiency networks serving the developing world
- Seek endorsement from regional political networks

Energy Efficiency Policy Recommendations: Southeast Asia region

- Experts' roundtable: December 2013, Jakarta, Indonesia
- Countries : Indonesia, Thailand, Malaysia, Vietnam, Philippines, Cambodia, Lao PDR, Myanmar, Singapore, Brunei Darussalam
- Regional barriers to EE
  - Highly subsidized energy prices
  - Lack of awareness in energy efficiency
  - Lack of policy and regulatory instruments and smart financing mechanism
  - Lack of manufacturing, servicing and testing capacity for EE products.
- REEPRs for the Southeast Asia region in October 2014
  - 20 customized EE policies in six sectors

An answer to the growing number of requests

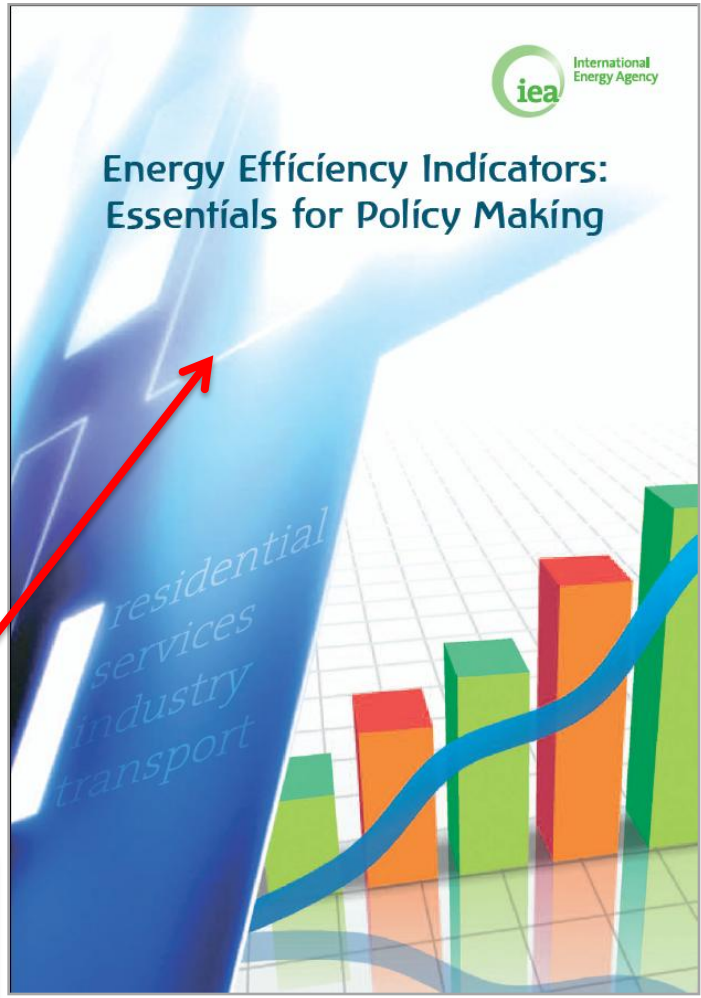
Users of the manual:

Policy makers – Overview on what is needed to construct useful indicators

Analysts – Insight into policy needs

Statisticians – Insight into how data collected is used

What indicators to build? How to determine energy efficiency potentials and set targets? How to track progress?



Upcoming

- **Latin America Energy Efficiency Roundtable: Peru 29 October 2014**
- **Policy Pathway: Small and Medium Enterprises – 2015**
- **Focus on cities in Energy Technology Perspectives 2016 book**

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Thank you

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